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AUTHOR Zgusta, Ladislav  
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## ABSTRACT

There are various types of dictionaries, depending on the goals for which a dictionary is compiled. The main intention of a bilingual dictionary is to indicate the semantic equivalence of the lexical items of two languages. Bilingual dictionaries are used primarily for two purposes: a speaker of the target language uses the dictionary in order to understand texts written in the source language and a speaker of the source language uses it to speak or write in the target language. Bilingual lexicography has made great progress in establishing types of dictionaries and in finding techniques of semantic and grammatical indications. There are two areas, however, where future research is necessary. First, a question which needs answering is "Which types of bilingual dictionaries should be used by the foreign language learner, and in what sequence should they be used?" Secondly, current studies which stress the study of sentences should be investigated by lexicographers. This stress does not necessarily run counter to the interests of the lexicographer, who deals primarily with lexical units. These studies should be investigated for two reasons: (1) current syntactic research contains many observations concerning concrete lexical units which deserve incorporation into the dictionary; (2) the lexicographer's task is to indicate as many as possible of the grammatical and semantic requirements and constraints that apply to a lexical unit. (CFM)

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Linguistics and Bilingual Dictionaries

Ladislav Zgusta

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O. INTRODUCTION

The main purpose of a bilingual dictionary is to indicate the semantic equivalence of the lexical units, or items, of two languages. This simple sentence could convey the idea that bilingual dictionaries vary only in respect to the languages they cover and in respect to the depth of detail with which lexical units are treated and that otherwise, they vary slightly. In reality, the contrary is the case. There are different types of bilingual dictionaries; the variation is largely determined by the goals for which a dictionary is compiled.

Since the earliest times, there have been dictionaries compiled in the philological tradition. The purpose of this type of dictionary is to help the user (who is supposed to be a speaker of the target language) to understand texts (usually written ones) of the source language (which is usually a dead one). This purpose entails the whole character of the philological dictionary. This type of dictionary indicates not only the general meanings of source-words, but also tries to capture all contextual nuances, all other nonces, and all difficult passages generally. The larger such a dictionary is, the more it will rely on quotations of contexts, and also, it will tend to give exact citations of those contexts. Because of the cultural differences, there will be many explanatory passages in such a dictionary, frequently of an encyclopedic character. Any dictionary of a language such as Latin can be used as an example of this category.

Bilingual dictionaries of living languages are used mainly for two purposes. A speaker of the target language uses the dictionary in order to understand texts in the source language. Or a speaker of the source

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language uses it to speak or write in the target language. The task of compiling dictionaries for these two uses is different as we shall see from the following example (Springer, 1964, p.46) of a reduced and interpreted entry:

enemy...s(ubst.) 1. mil(itary) Feind m.; the enemy der Feind, das feindliche Heer, Schiff etc., die feindliche Macht. 2. Gegner m. Feind m, Widersacher m, Gegenspieler m.

From this entry, the reader learns several German equivalents of one English expression. Only one of these equivalents is further described: Feind is said to be a military expression. Otherwise, there is no indication concerning the rest of the equivalents. Obviously, this dictionary is written for a German user who will know the subtle differences of the German expressions and their proper application. The German user will also have an English text before him and the context will lead him in his choice of the equivalent.

Let us now take as an example one entry from the Russian-English dictionary of Smirnickij-Akhmanova (1965, p.267). The entry is reduced here, with many indications, particularly the grammatical ones, omitted. I have added, in brackets, English translations of some of the Russian expressions.

oblegcat' 1. to facilitate, make easier/easy; 2. (o trude, gruze [about work, load]) lighten; oblegcat' ves (o samolete [about an airplane]) lessen the weight (of); oblegcat' konstrukciju samoleta lighten the construction of an aircraft; 3. (o boli [about pain]) ease, relieve; o stradanijakh i t.p. [about suffering and sim.] alleviate; jur. (o nakazanii [about punishment]) mitigate, commute.

This entry contains more semantic information, because it instructs the Russian user when to apply the single English equivalents. In this respect, it is a generative dictionary, compiled with the purpose of helping in the writing and speaking of English. The purpose of the

semantic indications is to prevent a Russian from saying in English, for instance, that 'pain is facilitated' and to lead him to the correct collocation.

Such a dictionary can be very useful to an English speaker who knows Russian as well. However, this usefulness is diminished by the fact that all the semantic characteristics are in Russian only. (The square brackets do not exist in the dictionary.) Any speaker of English who knows Russian well enough to understand all of them would be capable of using a Russian monolingual dictionary.

Bilingual lexicography has made great progress in establishing types of dictionaries and in finding techniques of semantic and grammatical indications. It is only recently that more complicated problems about bilingual lexicography are being understood. Above all, the choice between a translational equivalent as opposed to an explanatory one is clear, and other similar problems have also been clarified. Since all of these things are discussed in Zgusta (1971), especially in the sections on bilingual lexicography (particularly 7.6.1), we shall, in this paper, discuss some problems for future research. Of course, we cannot possibly mention everything since the whole field is enormous, beginning with language planning in some languages, particularly non-Western ones, and ending with the application of computers in the lexicographer's work.

We shall mention only two points. The first of them is connected with psycholinguistic research, the other with developments in theoretical linguistics.

#### 1. PSYCHOLINGUISTIC INVESTIGATIONS

Bilingual dictionaries are a crucial tool in the learning of a

foreign language. The question is: which types and in what sequence should these dictionaries be used? The beginner normally uses a simple glossary that does not contain much information beyond the equivalents themselves, because it is used in connection with a textbook that is supposed to contain all the necessary grammatical information. However, when some progress is made, the advanced learners need much more information about the language which they are learning. Therefore, they start using a bilingual dictionary, usually a small one at first, and then they advance to using a larger one. How soon should a language learner be encouraged to use a monolingual dictionary of the language instead of the bilingual one? That is, for instance, how soon should an English speaking student who is learning French start using his Larousse, or Robert exclusively, instead of using it along with his Cassel or Harrap? Opinions differ on this, and the use of both kinds of dictionaries has its advantages.

The advantage of the monolingual dictionary is that it has only one language in focus and concentrates on an exhaustive description of the polysemy of words, with examples showing the typical and/or the semantically difficult collocations, phraseology, idioms, etc. The result is that the advanced learner who uses a monolingual dictionary of the language which he is learning is introduced more directly into that language and gets an exercise in its paraphrastic and synonymic possibilities. On the other hand, a bilingual dictionary can focus on the points of contrast between the two languages and thus effectively helps the learner to understand and overcome the semantic, grammatical, pragmatic and cultural differences between the two languages. The general tendency is, in any

case, that the better one knows a language the more one tends to use a monolingual dictionary (if there is one). However, large monolingual dictionaries are too difficult to use and the smaller ones usually tend to supply only the kind of information that a native speaker may not know. Excellent progress in this was made by Hornby (1963). The idea of a monolingual dictionary written for the foreigner combines both the advantages mentioned above. It is true that such a dictionary cannot focus on the concrete contrasts between two given languages, but even so, it can be successful if it gives all the information any foreigner would need. However, the great advantage of the bilingual dictionary is that the student who is preparing a text in the target language can find in it the expressions that he does not know.

All of these considerations, unfortunately, lack foundation in solid psycholinguistic research which would show whether an advanced student learns the expressions of a foreign language more effectively by means of a bilingual dictionary or a monolingual one. Some experimentation in this field is needed.

## 2. THEORETICAL LINGUISTICS

The last few years have brought great progress in syntactic and semantic studies. We shall mention only a few developments which are of immediate importance for lexicography.

We have seen above that a good generative dictionary should advise the user how to use the single equivalents of the target language. Such indications require much semantic information. The bilingual lexicographer needs to know as much as the compiler of a monolingual dictionary about the possible, obligatory, and prohibited combinations of lexical units.

In addition, a bilingual lexicographer must cope with the coincidences and differences of two languages, at the same time, in contrast. Therefore, it is important to him that some syntactic approaches are now giving much attention to such combinations in a sentence.

The investigations which are of most importance to the lexicographer are those which have been (at least partly) inspired by Lucien Tesnière (1953 & 1959) who introduced to the study of syntax the idea that the central element of the sentence is the verb. According to him, the sentence does not consist of a noun phrase + verb phrase, or of a subject and a predicate, but of the verb, usually accompanied by further actants. The predominantly syntactic consequences of this idea, as we see them, for instance, in Fillmore (1968), Saumjan (1973) and Heringer (1972), do not immediately interest us in this paper. There are, however, other important consequences. The interaction of the verb and its object is rather well known. If we compare

He drinks water!  
He drinks.

we see that in the second example, "drinks" either has a different meaning, or the sentence is impossible. However, some verbs show similar semantic effects in interaction with other parts of a sentence, which have not yet been extensively studied from this point of view. We indicate some examples taken or adapted from Helbig-Schenkel (1971), with English translations:

|                                  |                                 |
|----------------------------------|---------------------------------|
| Er starb in Dresden.             | He died in Dresden.             |
| Er starb, als er in Dresden war. | He died when he was in Dresden. |

but:

|                                    |                                     |
|------------------------------------|-------------------------------------|
| Er wohnte in Dresden.              | He resided in Dresden.              |
| *Er wohnte, als er in Dresden war. | *He resided when he was in Dresden. |

In a similar way:

|                                                     |                                                  |
|-----------------------------------------------------|--------------------------------------------------|
| Die Kinder spielten hinter dem Haus.                | The kids played behind the house.                |
| Die Kinder spielten, als sie hinter dem Haus waren. | The kids played when they were behind the house. |

but:

|                                                  |                                                        |
|--------------------------------------------------|--------------------------------------------------------|
| Der Obstgarten lag hinter dem Haus.              | The orchard was located behind the house.              |
| *Der Obstgarten lag, als er hinter dem Haus war. | *The orchard was located when it was behind the house. |

Obviously, some verbs have a tighter connection with their circumstantials (as they are called in the Tesnièrean syntax) than others. However, there are various constraints on the possible choices of the actants (and circumstantials). Let us compare the following examples (the English translation is only an approximation).

|                                    |                                |
|------------------------------------|--------------------------------|
| Das Mädchen liegt am Strand.       | The girl lies on the beach.    |
| Das Liegen des Mädchens am Strand. | The girl's lying on the beach. |

but:

|                                   |                               |
|-----------------------------------|-------------------------------|
| Berlin liegt an der Spree.        | Berlin lies on the Spree.     |
| *Das Liegen Berlins an der Spree. | *Berlin's lying on the Spree. |

The number of the necessary actants and circumstantials also varies:

|                            |                        |
|----------------------------|------------------------|
| Ich besuche ihn in Berlin. | I visit him in Berlin. |
|----------------------------|------------------------|

can be reduced in only one way:

|                  |              |
|------------------|--------------|
| Ich besuche ihn. | I visit him. |
|------------------|--------------|

but:

|                         |                     |
|-------------------------|---------------------|
| *Ich besuche in Berlin. | *I visit in Berlin. |
| *Ich besuche.           | *I visit.           |

On the other hand,

|                                 |                                |
|---------------------------------|--------------------------------|
| Er legt das Buch auf den Tisch. | He puts the book on the table. |
|---------------------------------|--------------------------------|

cannot be reduced at all.

\*Er legt das Buch.  
 \*Er legt auf den Tisch.  
 \*Er legt.

\*He puts the book.  
 \*He puts on the table.  
 \*He puts.

All of these and similar phenomena are conceptualized as valences of the verb, obligatory and facultative. The term is inspired by chemistry. A valence is a given verb's necessity or ability to combine with another element.

This approach is particularly important to the lexicographer because it ties these phenomena to single, concrete lexical verbs, thus entailing their detailed investigation. The most extensive result of such an investigation is Helbig-Schenkel (1971), a dictionary of some 500 German verbs, with their valences and semantic constraints. We shall give an adapted and simplified example of a simple verb and another of a strongly polysemous one.

Schenken sense (1) "donate, give (concrete)"

two obligatory valences, one facultative

The first obligatory valence: a substantive in the nominative case, either "human" (Der Vater schenkt einen Roller. "Father gives a scooter."), or "abstract", understood as human (Das Ministerium schenkt dem Aktivisten Blumen. "The ministry gives flowers to an employee who is innovative in political activities and in his work.")).

The second obligatory valence: a substantive in the accusative case, either animate (but not human) (Er schenkt dem Kind einen Hund. "He gives the child a dog."), or inanimate (Er schenkt dem Kind eine Puppe. "He gives the child a doll.")).

The third, facultative valence: a substantive in dative, either human (Er schenkte seinem Freund das Buch. "He gave his friend a book.")

or abstract (understood as human) (Er schenkte dem Staat das Grundstück.  
"He gave the lot to the state.").

schenken, sense (2) "give, transferred sense"

three valences, all obligatory

First valence: a substantive in nominative, human (Die Eltern schenken dem Kind Vertrauen. "The parents give the child confidence."), or abstract (understood as human) (Der Staat schenkt seinen Bürgern Vertrauen. "The state gives its citizens confidence.").

Second valence: a substantive in the accusative case, abstract (Er schenkt ihm Vertrauen. "He gives him confidence.").

Third valence: a substantive in dative, no constraints (Er schenkt dem Freund, dem Hund, dem Auto, dem Sportklub, dem Gedanken, dem Turnen viel Aufmerksamkeit. "He gives the friend, the dog, the car, the club, the idea, physical exercise much attention.").

schenken, sense (3) "pour/serve"

three obligatory valences

First valence: substantive in nominative, human (Die Mutter schenkt Kaffee in die Tasse. "Mother pours coffee into the cup.").

Second valence: substantive in accusative, inanimate (liquid matter) (Sie schenkt den Kaffee in die Tasse. "She pours coffee into the cup.").

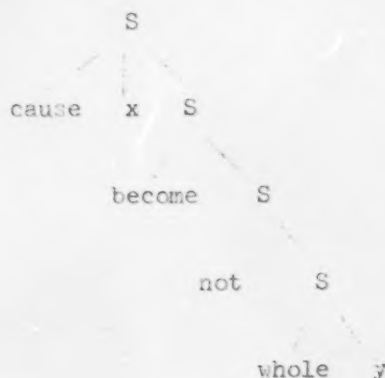
Third valence: preposition in, substantive in accusative, inanimate (container) (Sie schenkt Tee in die Tasse. "She pours/serves tea into the cup.").

It goes without saying that some of these indications could be found, organized in another way, in dictionaries like that of Wahrig (1968) or Steinitz-Klappenbach (1961ff.); and it is equally clear that further

refinements of these indications, particularly of the semantic constraints, will be possible. Still, it should be evident how useful works like Helbig-Schenkel are to the lexicographer; it is to be hoped that the work will be continued for German and in other languages as well.

The work of Helbig and Schenkel is of immediate importance for lexicography because of its whole conception. And also because it has the form of a dictionary itself. However, there are also other approaches which promise to be useful for lexicography. Within the generative approach, the lexical analyses above all are particularly useful. Pertinent works by the generative semanticist, e.g. McCawley (1971) or Green (1969) are well-known. Apart from their syntactic interest, they also show that the meaning of lexical units can be considered as consisting of elements which have a syntactic structure themselves; thus,

e.g. break



Another aspect of the work of the generative semanticists, which is of great importance to the lexicographer, is their detailed study of possible and impossible combinations.

Cf., for instance:

He hammered the nail into the board.  
 He hammered the nail through the board.  
 He hammered the metal smooth/flat/thin/soft/shiny.  
 He hammered the flowerpot (in)to pieces/smithereens.  
 He hammered the metal into a cylinder/disk/frying pan.  
 He hammered a groove into the metal.  
 He hammered the dent out of the fender.  
 He hammered the gold onto the sign.  
 He hammered the shine off the fender.  
 He hammered a hole in(to) the wall.  
 He hammered a 6-inch disk out of the wall.  
 He hammered the board apart.

but:

\*He hammered the metal beautiful/ugly/dangerous/safe.  
 \*He hammered the metal cylindrical/circular/spherical.

And:

He hammered the rod straight/\*bent.

(Examples from Green and McCawley, op.cit.) Investigations of this type are much broader in their scope than the usual testing of possible combinations, or observing their attested types, as normally performed by the lexicographer, and are therefore, of the greatest consequence for lexicography.

A similar type of syntactic investigation was performed by Fillmore (1969), whose work more immediately resembles the lexicographer's output. In a truly Tesnièrean approach, he sees the predication (of the verb) spread over arguments, some of which are obligatory; thus he shows various syntactic phenomena which are of immediate interest to the lexicographer. So, e.g. (Fillmore 1969, p.118):

The boys blamed the girls for the mess.  
 The boys blamed the girls.

but:

\*The boys blamed.

Fillmore then describes several English verbs in a way which we shall

illustrate by one example (op.cit. p. 134):

ACCUSE: +Performative, +Locutionary, +Momentary  
 arguments: x, y, z  
 cases: Source + Agent, Goal, Object  
 prepositions: by,  $\phi$ , of  
 normal subject: x  
 direct object: y  
 presuppositions: x and y are human  
                   z is an activity  
                   x judges [z is "bad"]  
 meaning:          x indicates [y caused z]  
 zero for indefinite: x  
 zero for definite: z

We shall not discuss here the theory of the performative, locutionary and other functions of verbs, nor the Fillmorean theory of case. But we cannot fail to notice that this description makes some implicit assumptions about the meaning of the verb explicit; this is also true concerning the presuppositions. In addition, it is an excellent observation that if x is unexpressed, the accuser is or may be indefinite, but that z can be unexpressed only if it is definite.

Works of this type are so numerous that we were able to discuss only two of them. We cannot discuss Fillmore (1970), Apresyan-Melčuk-Žolkovsky (1969), Bierwisch (1970), Brekle (1970), Chafe (1970) and many others. Unlike Helbig-Schenkel, these linguists do not treat large groups of lexical units; they rather explore various theoretical avenues (by different approaches) and analyse single examples. It is to be hoped that proofs of these theoretical conceptions will be sought in their broad application on large groups of lexical units in various languages, because the results of such investigations would be of great interest and might be of great use to the lexicographer.

### 3. CONCLUSION

Theoretical linguistics is developing in a direction which should greatly profit the lexicographer. It would be wrong to think that the contemporary stress on the study of sentences creates a gap between the lexicographer, who deals primarily with lexical units, and the syntactician; the contrary is much closer to the truth. The lexicographer describes the properties of lexical units -- the way they combine in a sentence, which lexical combinations are necessary, which are possible, and which are impossible. The indication of how a lexical unit is used in a sentence undoubtedly is a major aim of a generative bilingual dictionary.

We have shown examples of syntactic approaches that study exactly the area where the investigation of the lexicon and that of syntax overlap, or rather where they are united. Much of this kind of information is contained in good contemporary dictionaries, but organized and expressed in a different way. However, a systematic study of all the necessary and possible elements with which a lexical unit is combined in a sentence is broader than the usual practice of the lexicographer. I do not think that lexicography will or should abandon its ways of presentation; to adopt, for example, the type of presentation used by Fillmore (see above) would puzzle the general user and would be cumbersome for a bilingual dictionary. Still, these syntactic or syntactico-lexical studies are of double importance for the lexicographer. First, in their concrete results: professional lexicographers frequently do not follow current syntactic research, so engrossed are they in their own work and so strict are the limits forced on them by time economy. But current syntactic research contains many observations concerning concrete lexical units which deserve

incorporation into the dictionary. Second, in the method: if the application of a lexical unit in a sentence entails a complicated interplay of grammatical and semantic requirements and constraints, the lexicographer's task is not only to indicate the most immediate rules of, for instance, government or reaction, or the typical combinations of, say, objects with a given verb, but to try to indicate as many of them as possible, optimally all of them.

The examples quoted above, from current studies, show that the area of necessary research is a very broad one. Such research implies the necessity for testing the acceptability of a given lexical unit in an enormous number of sentences. In the compilation of generative bilingual dictionaries, a comparative presentation of the results of this research is necessary, organized for the user in such a way that he can produce "good" sentences in the target language.

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